

## HEALTH DATA SYSTEM

TO CREATE A TRUE LONGITUDINAL HEALTH CARE RECORD INCLUDING DATA FROM VA AND NON-VA SOURCES.

### BAR CODE MEDICATION ADMINISTRATION

Medication administration errors have long been recognized as a significant cause of morbidity and mortality in hospitalized patients. To address this serious issue and attempt to reduce medication errors, the Veterans Health Administration (VHA) created a new project called Bar Code Medication Administration (BCMA). The program was modeled on a prototype created by the Topeka Division of the Eastern Kansas Health Care System (Colmery-O'Neil Veterans Affairs Medical Center). The system uses wireless, point-of-care technology with an integrated bar code scanner. Nurses scan bar codes on patient wristbands and medications as the medications are given and the system validates and documents the transaction.

The goal of the project was to create and implement software that would electronically validate medications for inpatients and document medication administration in all VA Medical Centers. The computerized system ensures that the patient receives the correct medication, in the correct dose, at the correct time, and visually alerts staff when the proper parameters are not met. The software reduces reliance on memory with a system of reports that reminds clinical staff when medications need to be administered or when the effectiveness of doses administered should be assessed. It also notifies staff of potential allergies and adverse reactions for the patient.

Automation of the medication administration process improves medication administration accuracy and increases the efficiency of documentation. As each patient wristband and medication is scanned by the bar code reader, the software validates that the medication is for the correct patient, is administered timely, and in the correct dosage—as well as electronically updates the medication administration history. BCMA software offers a tool to augment, not replace, the clinical judgment of the medication administrator.

BCMA improves efficiency by:

- Increasing medication administration accuracy
- Increasing the information available to clinical staff at the patient point-of-care
- Reducing wasted medications
- Improving communication between Nursing and Pharmacy staffs
- Providing a real-time Virtual Due List of orders for medication administration
- Recording refused and held medications and reasons
- Recording missing doses and sending the request electronically to the Pharmacy
- Providing a point-of-care, real time data entry/retrieval system
- Providing full compatibility with the existing **VISTA** and **CPRS** system

The software offers a comprehensive package of management and accountability tools, including a DUE list, generated by the nurse, which lists the medications to be administered immediately prior to each administration time. A PRN effectiveness list and on-screen Clinical Reminder alerts the nurse to record the effectiveness of *pro re nata* (PRN) or “as needed” doses after they have been given. The paperless Medication Administration History (MAH) electronically records the exact time the medication was scanned as given and the initials of the medication administrator. The Patient Medication Log and the Medication History is used by clinical staff to review the number of doses or times a drug has been recorded. Missing Dose Request(s) automatically alerts Pharmacy staff when a dose is not available to be administered. Other management tools are available and software flexibility allows the setting of parameters and defaults that define the functionality and processes specific to individual site needs.